Kingston TECHNOLOGY
Value RAM

KVR13LE9/8EF

8GB 2Rx8 1G x 72-Bit PC3L-10600
CL9 240-Pin ECC DIMM

DESCRIPTION

This document describes ValueRAM's 1G x 72-bit (8GB) DDR3L-1333 CL9 SDRAM (Synchronous DRAM), 2Rx8, ECC, low voltage, memory module, based on eighteen 512M x 8-bit FBGA components. The SPD is programmed to JEDEC standard latency DDR3-1333 timing of 9-9-9 at 1.35V or 1.5V. This 240-pin DIMM uses gold contact fingers. The electrical and mechanical specifications are as follows:

FEATURES

- JEDEC standard 1.35V (1.28V ~ 1.45V) and 1.5V (1.425V ~ 1.575V) Power Supply

- VDDQ = 1.35V (1.28V ~ 1.45V) and 1.5V (1.425V ~ 1.575V)

- 667MHz fCK for 1333Mb/sec/pin

- 8 independent internal bank

- Programmable CAS Latency: 9, 8, 7, 6

- Programmable Additive Latency: 0, CL - 2, or CL - 1 clock

- Programmable CAS Write Latency(CWL) = 7 (DDR3-1333)

- 8-bit pre-fetch

- Burst Length: 8 (Interleave without any limit, sequential with starting address "000" only), 4 with tCCD = 4 which does not allow seamless read or write [either on the fly using A12 or MRS]

- Bi-directional Differential Data Strobe

- Thermal Sensor Grade B

- Internal(self) calibration : Internal self calibration through ZQ pin (RZQ : 240 ohm ± 1%)

- On Die Termination using ODT pin

- Average Refresh Period 7.8us at lower than TCASE 85°C, 3.9us at 85°C < TCASE ≤ 95°C

- Asynchronous Reset

- PCB: Height 1.18" (30mm), double sided component

SPECIFICATIONS

CL(IDD)	9 cycles
Row Cycle Time (tRCmin)	49.5ns (min.)
Refresh to Active/Refresh Command Time (tRFCmin)	260ns (min.)
Row Active Time (tRASmin)	36ns (min.)
Maximum Operating Power	(1.35V) = 1.980 W*
	(1.50V) = 2.200 W*
UL Rating	94 V - 0
Operating Temperature	0° C to 85° C
Storage Temperature	-55° C to +100° C

*Power will vary depending on the SDRAM.

SDRAM SUPPORTED

Elpida (F-Die)

MODULE DIMENSIONS:

133.35

Units: millimeters

30.00

18.80
15.80

11.00
8.00

0.00

0.00

54.70